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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,539	10/23/2003	Ulrich Augustin	08050001US	9110
7055	7590	01/06/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			PALABRICA, RICARDO J	
			ART UNIT	PAPER NUMBER
			3663	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,539	Applicant(s) AUGUSTIN, ULRICH	
	Examiner Rick Palabrica	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-44 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 8, 12, 14, 16-19, 21-24, 27, 30-32, 35, 36, 40, and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3-7,9-11,13,15,20,25,26,28,29,33,34,37-39 and 42-44.

DETAILED ACTION

1. Applicant's 11/21/05 Amendment, which directly amended claim 1, and traversed the objection to the specification and the rejection of claims, is acknowledged.

Applicant alleges that the amendment of claim 1, which adds the limitation, "piezo material arranged between spherical walls", is sufficient to define over applied prior art, i.e., Enfinger, Laberge or Symons. Applicant's arguments have been fully considered but they are not persuasive, as discussed in the following sections.

Response to Arguments

2. Restriction Requirement

In response to Applicant's request for clarification of status of claims (specifically claims 16 and 33), the claims examined in the 8/1/05 Office action are listed in section 1 of said Office action. Claim 16 has been examined because it reads on the elected invention (e.g. see sections 3, 4, 5, 6 and 7 of the 8/1/05 Office). Claim 33 has been withdrawn from consideration because it is directed to a non-elected invention (i.e., Fig. 6), and Applicant himself withdrew this claim in his 5/31/05 Response (see page 2, 1st paragraph).

As to the requested consideration of withdrawn claims, these will be treated in accordance with MPEP 809.02(a), as stated in section 6 of the 4/28/05 Office action.

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3. Specification objection

Applicant traversed the objection to the specification on the ground that it is improper and inconsistent with current USPTO rules. Applicant further alleges that objections are to be based on USPTO rules.

The Examiner disagrees because there are solid bases for said objections, including MPEP 608.01, which cites the following USPTO rule 37 CFR 1.71:

"37 CFR 1.71 Detailed description and specification of the invention.

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same."

Additionally, the Examiner's objection is based on MPEP 2162, which states:

"2162 Policy Underlying 35 U.S.C. 112, First Paragraph

To obtain a valid patent, a patent application must be filed that contains a full and clear disclosure of the invention in the manner prescribed by 35 U.S.C. 112, first paragraph. The requirement for an adequate disclosure ensures that the public receives something in return for the exclusionary rights that are granted to the inventor by a patent. The grant of a patent helps to foster and enhance the development and disclosure of new ideas and the advancement of scientific knowledge. Upon the grant of a patent in the U.S., information contained in the patent becomes a part of the information available to the public for further research and development, subject only to the patentee's right to exclude others during the life of the patent."

Based on the above, the Examiner's objection to the specification is proper and it is therefore maintained.

4. 35 CFR 112 rejections

Applicant traversed the rejection of claims under 35 U.S.C. 112, first and second paragraphs. Applicant's arguments have been fully considered but not found convincing.

As to the issue of a single pressure wave producing oscillations, Applicant argues that the claims do not recite or require a single pressure wave. To support this argument, Applicant asserts that the specification clearly explains that the actuator can "generate pressure waves to start the process". The Examiner disagrees.

Note that claim 1 recites, "at least one actuator comprising a piezo material arranged between spherical walls and contained by the substantially spherical body to generate at least one pressure wave in the working fluid." Underlining provided. As stated in section 3 of the 8/1/05 Office action, the claim language "at least one pressure wave," admits to a single (i.e., ONE) pressure wave. Thus, as presently set forth, the claims admit that a SINGLE PRESSURE WAVE generated by an actuator is suitable for exercising the invention. There is no support in the disclosure for such single pressure wave species being able to produce electrical energy.

As to Applicant's assertion that the actuator can generate a plurality of pressure waves, this is immaterial to the issue raised by the Examiner. The issue is NOT with the actuator's capability to produce waves, but to how and in what manner a SINGLE wave can sustain fusion reactions and generate electricity.

As to the issue of lack of enablement of the device being operative to produce nuclear fusion, Applicant alleges that: the device, a) "is believed to be sufficient to

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conduct experiments which will produce some nuclear fusion”; b) “is believed to contribute the experimental research that is required to one day produce nuclear fusion.

The Examiner disagrees.

First, Applicant's arguments has no probative value because it represents his own opinion, as evidenced by the statement, “is believed”. Note MPEP 716.01(c), which states that an opinion as to the ultimate legal conclusion at issue is not entitled to any weight.

Second, Applicant's own admission that the device is to contribute to experimental research that may one day in the future lead to nuclear fusion, lends actual proof that the invention has NOT been reduced to an operative system for producing nuclear fusion. In fact, Applicant himself is not totally certain that the device would lead to nuclear fusion. The only thing he is sure of is that it will contribute to research on nuclear fusion.

Third, the only utility described in the specification is for ACTUAL generation of electrical energy (e.g., see page 4, 1st paragraph, and page 6, lines 3+). There is no disclosure as to the device being used for research.

As to claim 21, Applicant asserts that the features, “one or more pressure sensors” and “control and power unit” have proper antecedent bases because they are “recited for the first time without the preceding terms ‘the’ and ‘said’”. The Examiner disagrees. Applicant's argument would be correct only if these features are inherent in all fusion reactor assemblies. Note that the preamble recites a generic “fusion reactor

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assembly", and not all such fusion assemblies include pressure sensors and control and power unit. The sun, where fusion reactions are continuously occurring, is a clear example of such assembly without these features.

As to the other issues raised in section 2 of the 8/1/05 Office action, i.e., creation of nuclear fusion temperatures by the pressure waves, specific operative embodiments, control and conditioner being nothing more than "black boxes", and calibrated deuterium-tritium gas bubbles, Applicant's arguments have been fully considered but are not found dispositive of these issues. Note that the Examiner has specifically identified examples of matters and parameters essential to the exercise of the invention that are not adequately disclosed. Contrary to Examiner's detailed approach, Applicant merely makes a "broad brush" statement that these items are enabled because they have been described to enable one having ordinary skill in the art to make or use the invention without undue experimentation. Again, Applicant's argument has no probative value because represents nothing more than a conclusory statement unsupported by objective factual evidence (see MPEP 716.01(c) and MPEP 2145).

5. 35 CFR 101 rejection

Applicant traversed the rejection of claims under 35 U.S.C. 101 on the grounds that the device "is clearly useful for conducting experiments directed to producing fusion." Underlining provided.

The Examiner disagrees because the only utility disclosed in for production of electricity and not for research (see also section 4 above). The claims are directed to a fusion reactor assembly to generate electrical energy (see specification on page 5, 1st

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paragraph, page 6, lines 3+, page 9, lines 12+). Conducting fusion experiments is clearly not the purpose of the invention. The claims when read in the light of the disclosure are directed to subject matter which lacks utility by reason of being inoperative for the intended purpose.

Note in this regard Brenner v. Manson, 148 UPQ 689, where the Court said:

"The basic quid pro quo contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility. Unless and until a process is refined and developed to this point – where specific benefit exists in currently available form – there is insufficient justification for permitting an applicant to engross what may prove to be a broad field.

*"This is not to say that we mean to disparage the importance of contributions to the fund of scientific information of something 'useful', or that we are blind to the prospect that what now seems without 'use' may tomorrow command the grateful attention of the public. But a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion. '[A] patent system must be related to the world of commerce rather than to the realm of philosophy. ***' [underlining provided, footnote omitted]."*

6. 35 U.S.C. 102 rejections

Applicant alleges that the claims define over Enfinger, Laberge or Symons because neither one of them discloses the limitation, "a piezo material arranged between spherical walls." The Examiner disagrees because these references read on said limitation as follows:

Enfinger discloses in Fig. 1, for example, a piezoelectric transducer 42 bonded to the chamber's spherical inner surface 22A (see paragraph 0029). An outer surface 22B surrounds this transducer, which surface may include neutron shielding 24 (see paragraph 0030). Thus, Enfinger's transducer 42 is disposed between two spherical

walls. Note that the term “bonded” implies that the transducer is a structure separate from but attached to an inner wall.

Laberge discloses (e.g. see Fig. 2) a plurality of pistons 36 that are disposed between a spherical vessel 12 and an outer spherical wall that forms a support structure for said pistons. Applicant claim language “piezo material reads on pistons that are part of a pneumatic-mechanical system (see paragraph 0032).

Symons discloses in Fig. 10 an inner spherical wall 29 and an outer spherical wall 31. Applicant’s claim language. “piezo material” reads on the imploding shock wave, i.e., energized and pressurized atmosphere between the inner and outer spherical walls created by detonation of explosive material. Note that the claims do not define when said piezo electric material is arranged between the spherical walls, and absent such definition, said Symons’ atmosphere created by the explosion reads on said material.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an adequate written description of the invention and as failing to adequately

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teach how to make and/or use the invention, i.e., failing to provide an enabling disclosure.

The reasons are the same as those stated in section 2 of the 8/1/05 Office action, as further clarified in section 3 above, which reasons are herein incorporated.

8. Claims 1, 8, 12, 14, 16-19, 21-24, 27, 30-32, 35, 36, 40, and 41 are rejected under 35 U.S.C. 112, first paragraph, for the reasons stated in sections 3 and 4 of the 8/1/05 Office action, as further clarified in sections 3 and 4 above, which reasons are herein incorporated.

9. Claims 1, 8, 12, 14, 16-19, 21-24, 27, 30-32, 35, 36, 40, and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The reasons are the same as those stated in section 5 of the 8/1/05 Office action (except for that associated with the old claim 1), as further clarified in section 4 above, which reasons are herein incorporated.

10. Claims 1, 8, 12, 14, 16-19, 21-24, 27, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended claim 1 recites the limitation "spherical walls" in line 4. There is insufficient antecedent basis for this limitation in the claim. Not all fusion reactor assemblies inherently have spherical walls.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1, 8, 12, 14, 16-19, 21-24, 27, 30-32, 35, 36, 40, and 41 are rejected under 35 U.S.C. 101 because the invention as disclosed is inoperative and therefore lacks utility.

The reasons are the same as those stated in section 6 of the 8/1/05 Office action, as further clarified in section 5 above, which reasons are herein incorporated.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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12. Claims 1, 12, 14, 16, 17, 19, 27, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Enfinger (U.S. 2004/0141578 A1) or under 35 U.S.C. 102(b) as being anticipated by Laberge (WO 03/077260 A2).

The reasons are the same as those stated in section 7 of the 8/1/05 Office action, as further clarified in section 6 above, which reasons are herein incorporated.

13. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Enfinger or under 35 U.S.C. 102(b) as being anticipated by Laberge. See also section 9 of the 8/1/05 Office action, and the clarification in section 6 above.

14. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Enfinger or under 35 U.S.C. 102(b) as being anticipated by Laberge.

The reasons are the same as those stated in section 11 of the 8/1/05 Office action, as further clarified in section 6 above, which reasons are herein incorporated.

15. Claims 22-24, 31, 35, 36, 40, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Enfinger or under 35 U.S.C. 102(b) as being anticipated by Laberge. The reasons are the same as those stated in section 12 of the 8/1/05 Office action, as further clarified in section 6 above, which reasons are herein incorporated.

16. Claim 32 is rejected under 35 U.S.C. 102(e) as being anticipated by Enfinger. See also section 13 of the 8/1/05 Office action, and the clarification in section 6 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laberge in view of Pless (U.S. 5,968,323) or Putterman et al., both alone or in combination with each other. Laberge discloses the Applicant's claims except for the use of water as working fluid.

Laberge, which has been discussed earlier, teaches a working fluid comprising a liquid that includes liquid metal.

Pless teaches a fusion apparatus wherein the working fluid can either be a liquid metal or water (see col. 3, lines 3+ and col. 4, lines 14+).

Putterman et al. teach water as the working fluid for their fusion apparatus.

One having ordinary skill in the art would have recognized that all three references are in the same field of endeavor, nuclear fusion. Therefore, it would have been obvious to this artisan at the time the invention was made to modify the apparatus, as disclosed by Laberge, by the teaching of either Pless or Putterman et al., both alone or in combination with each other, to use water as working fluid, to gain the advantages thereof (i.e., abundance and economical), because such modification is no more than the use of well known expedients within the nuclear art.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:30-5:00, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJP
January 3, 2006

A handwritten signature in black ink, appearing to read "R. Palabrica". The signature is written in a cursive, flowing style with a large initial "R".